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ANOTHER NEW *HYPOPACHUS* FROM GUATEMALA.

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In the summer of 1940, while investigating the herpetofauna of the Alta Verapaz, Guatemala, I visited, in order to obtain comparative data, the northern part of El Quiché. Most of my work in that region was done in the vicinity of Nebaj, and in an artificial pond on the outskirts of the village I collected a species of *Hypopachus* which, though I possess but a single specimen, I feel certain has not yet been described. Because of its truncate snout, this new species may be called:

Hypopachus simus, sp. nov.

Holotype.—An adult male, Museum of Zoology, University of Michigan No. 89095, collected on the evening of July 11, 1940, by L. C. Stuart.

Type locality.—A pond on the western edge of Nebaj, El Quiché, Guatemala. Altitude, about 1990 meters.

Diagnosis.—An *Hypopachus* of the *inguinalis* series, closest to *H. inguinalis* Cope, from which it may be distinguished by its larger inner metatarsal tubercle, its truncate snout, the broader webs between its toes, and its more conspicuous dermal toe fringe.

Description.—Snout truncate, acute in lateral view, very slightly longer than the diameter of the eye. Canthus rounded, loreal region oblique and slightly concave. Interorbital space very slightly greater than the width of the upper eyelid. Fingers free, comparative lengths III–IV–II–I, subarticular tubercles distinct but not prominent, three palmar tubercles. Toes not dilated, web between third and fourth toe broad but extending only to second tubercle on fourth toes. Other toes about half webbed, all toes, especially the third, with a conspicuous dermal fringe laterally. Comparative toe lengths, IV–III–V–II–I, subarticulate tubercles well developed, two metatarsal tubercles, the outer rounded, the inner large and compressed. The heels fail to meet when the hind legs are adpressed, and when extended forward the outer metatarsal tubercle falls opposite the center of the eye. Skin leathery both above and below, somewhat bumpy dorsally, and containing minute spicules. An inconspicuous dermal fold extends from the eye obliquely posteriorly to the arm insertions.

In spirits the dorsum is purplish brown with several black flecks posteriorly. The limbs are somewhat redder above flecked with black. A light streak extends from the eye posteriorly and ventrally to in front of the arm insertions. There is a fine white line from the tip of the snout to the anus. A faintly darker streak lies just below the canthus and there is a small black spot just behind the angular streak from eye to arms. The throat is dark gray, which color becomes lighter posteriorly until the thighs are white. The chest contains scattered black spots which fuse posteriorly to form black reticulations which cover the thighs and ventral surfaces of the legs.

Range.—Known only from the type locality but very possibly widely distributed throughout the Sierra de los Cuchumatanes of northwestern Guatemala.

Relationships.—This is the third form of the *inguinalis* group [1] to be described since Parker's monograph [2] has appeared. Taylor [3] and myself [4] have further added other species to the genus but these have all shown a *cuneus* relationship with a compressed outer metatarsal tubercle. The *inguinalis* group, as I have previously pointed out,[2] appears to be restricted to "nuclear Central America," and this new species does not extend that range. The species of the *inguinalis* group are best summed up in the following key:

A. Outer metatarsal tubercle compressed.....*cuneus* group.
AA. Outer metatarsal tubercle rounded.....*inguinalis* group.
B. Tarsal-metatarsal articulation not reaching the eye.....
globulosus Schmidt.
BB. Tarsal-metatarsal articulation reaching the eye.....C
C. Skin of dorsum very warty.....*barberi* Schmidt.
CC. Skin of dorsum relatively smooth.....D
D. Snout pointed, inner metatarsal tubercle small....
inguinalis Cope.
DD. Snout truncate, inner metatarsal tubercle large....
simus Stuart.

This new species though closest to *inguinalis* shows some approach to *barberi* in that the skin of the dorsum is slightly roughened but in no way showing the very warty condition of the latter. The relatively large size of the inner metatarsal tubercle is best brought out by comparing its greatest diameter to the distance between the outer borders of the two metatarsal tubercles. In *inguinalis* the diameter is much less than this distance, while in *simus* the two are equal. The truncate form of the snout is unique in the *inguinalis* group.

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[1] Two have previously been described by Karl P. Schmidt, "New Central American Frogs of the Genus *Hypopachus*," *Zool. Ser. Field Mus. Nat. Hist.*, 24, 1, 1939 : 1–5, Fig. 1.

[2] H. W. Parker, "A Monograph of the Frogs of the Family Microbylidae," British Museum (Natural History). London, 1934 : viii+208 pp.

[3] Edward H. Taylor, "Herpetological Miscellany," *Univ. Kansas Sci. Bull.*, xxvi, 15, 1940 : 489–571.

[4] L. C. Stuart, "A New *Hypopachus* from Guatemala," *Proc. Biol. Soc. Washington*, 53, 1940 : 19–22.

Habits.—This species was singing in considerable numbers in a pond on the outskirts of Nebaj during July and early August, 1940. This pond was rather unusual in that it consisted of a moat-like channel surrounding a marshy island in the center of the pond. Because of the depth of the channel and the lack of a raft or boat, I was unable to reach the island where these frogs were singing and many circuits of the pond on different evenings resulted in the capture of but a single specimen, the type, along the shore. Occasional individuals were heard singing in local pools of water in the pastures surrounding Nebaj, but I was unable to secure further specimens. The call of this species, a prolonged hum, can not be differentiated from that of either *H. inguinalis* or *H. championi* Stuart.

In some of the small pools in pastures I secured on August 15, 1940, some tadpoles which are unquestionably the larvae of *H. simus*. The following is a description drawn from that series:

Teeth 0 / 0. The mouth is terminal and hidden, except medially, by a large supralabial apron on either side. These aprons arise at the corner of the mouth and extend medially to about the center of the mouth, where they curve sharply upward and outward to leave a disk-like opening between them dorsally. Medially they are papillated on the edge, and the papillae decrease in size laterally and disappear completely at about the middle of the apron.

The eyes are relatively small, completely lateral, and situated about two-fifths of the body length from the snout. The anus is medial and the spiracle lies to the left of and adjacent to the anus in ventral view. The tail is relatively short, the muscular portion extending almost the entire length of the tail. The fin extends only to the body and the abrupt junction of the tail muscles and the body is demarked by a deep groove in the body extending completely around the tail.

Comparative measurements on the larger specimens show that the tail comprises about sixty per cent of the total length and is about forty per cent as deep as long. The body is broadest at mid-body, being about seventy-five per cent as broad as long and slightly less than one-half as deep as long. The mouth is about forty per cent as broad as the body. In smaller specimens the mouth and tail-body proportions are about the same as in the larger specimens, but the body is proportionally deeper and broader.

Dorsally the color is dark brown, ventrally brownish gray. Proximally the upper half of the tail musculature is brown, the lower half white. Distally the tail musculature is entirely brown. The fin is transparent and lacks pigmentation except for a few scattered brown punctations along its dorsal edge.

In comparing these tadpoles with some poorly preserved larvae of *H. c. cuneus* Cope from Texas and with several equally poorly preserved specimens of *H. c. nigroreticulatus* Taylor from Yucatan, the mouth of *simus* tadpoles appears to be relatively wider, and their color is much darker. The prominent papillary fringe on the labial aprons of *simus* is lacking in the *cuneus* subspecies where it is reduced to nothing more than a scalloped edge.

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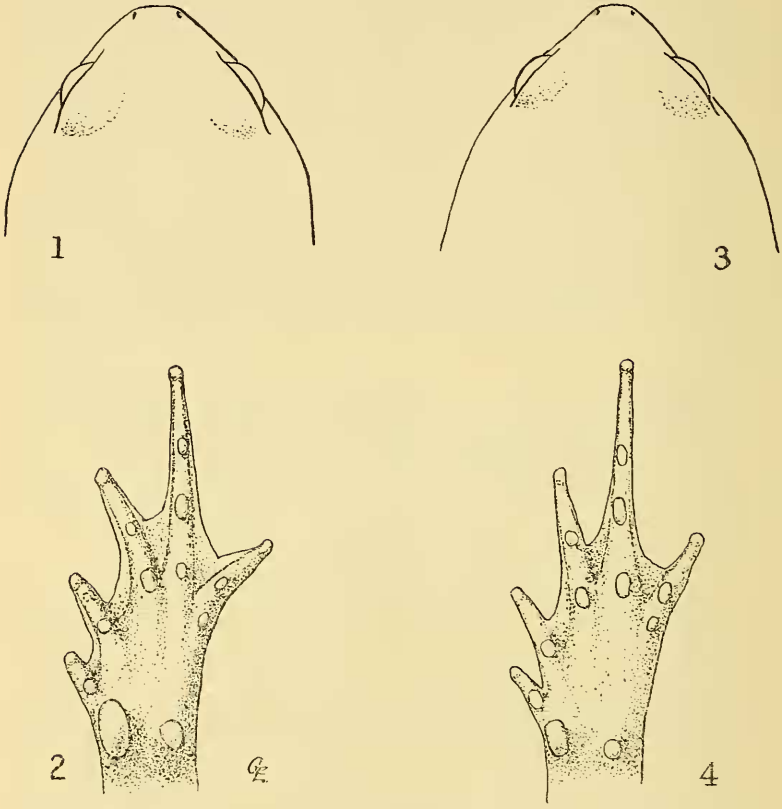

PLATE 1. Sketch showing the comparatively broad snout in *H. simus.* (FIG. 1) as opposed to that of *H. inguinalis* (Fig. 3) and the much larger tubercle and more extensive webbing in *H. simus* (Fig. 2) as compared with the same structures in *H. inguinalis* (Fig. 4).